

## USE OF ICT BASED RESOURCES AND SERVICES: A STUDY AMONG LIS RESEARCH SCHOLARS IN SOUTH TAMIL NADU

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### ABSTRACT

*This paper examines the ICT (Information and Communication Technology) based resources and services are used by the research scholars of Library and information science in south Tamil Nadu. The data were collected from the respondents by using a structured questionnaire. The majority of respondents have used OPAC Service and less number respondents are using Electronic Document Delivery Service. It is further found that a large number of respondents are using search engines to find information for their research. The study also recommends promoting Electronic Document Delivery Service and deposit the scholarly content produced by LIS professionals in an open access domain.*

**KEYWORDS:** ICT, LIS Professionals, Research Scholars, ICT Based Service & ICT Based Resources

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### INTRODUCTION

Library and Information Science (LIS) research is required to create innovative knowledge and contribute to the development of LIS as a profession or discipline. It should help to improve the problem solving and decision making in the workplace. The research should add credit to the profession development for librarians, particularly academic environment. It can also improve an individual's ability to think critically and analytically, improve staff morale, and enhance the library's status within its community (Powell, R. R. (1997)).<sup>12</sup>

According to Tejomurthy, A., & Kumar, P. G. (1998)<sup>14</sup> research is governed by the rule of objectivity and not of subjectivity. A researcher may aim at the following objectives.

- To find new generalizations with old data
- To know old conclusions with new data
- To attempt to reach more conclusions from the same set of data
- To put forward an entirely original or theory or to discover an unexpected horizon of knowledge.
- To find or to resolve contradictions existing in the area of study.

### REVIEW OF RELATED LITERATURE

Chikkamanju, Ambika and Hydar Ali (2016)<sup>4</sup> in their study investigated that "the ICT based library and Information services in Constituent First Grade Colleges affiliated to University of Mysore. The study demonstrates and elaborates the primary way to learn about ICTs, the purpose of using ICT enabled library

services, to assess to what extent users are utilized ICT based library services and facilities, various aspects of Internet usage, favorite search engines, NLIST resources and services Suggestions have given to make the service more beneficial in the library users". A study was conducted by **Jyoti Bhatnagar (2013)**<sup>3</sup> to investigate "the application of information and communication technologies (ICT) in ITM Group of Institutions, Gwalior, M.P, India by investigating the ICT infrastructure, current status of library user's satisfaction, favorite activities toward ICT application. Researcher concluded that application of ICT in libraries has become inevitable in an era of information explosion and widespread use of digital information resources. Effective application of ICT in libraries helps in performing their operations and services most efficiently". **R. Hema, M. Nagarajan and B. Vanathi (2013)**<sup>7</sup> investigated "the awareness approach to ICT based resources and services by 1332 Teachers, research scholars and PG students of Arts and Science colleges and the researcher found from the study that the colleagues/classmates was the prime source for making the users themselves aware of ICT based resources". **Ghenetega Ivwighrehweta (2013)**<sup>8</sup> revealed that "the major reasons for using the ICT facilities in the selected libraries was that students and researchers use it for internet browsing and for the preparation of their lecture notes. It was also found that the services and operations in library where ICT are mostly been applied to are in the acquisition of materials, provision of the OPAC services". **Parveen Kumar (2012)**<sup>10</sup> found in a study that "the lack of modern ICT infrastructure in the libraries, i.e. none of the engineering college libraries taken for the study have the facility of LCD/ Slide Projector, for implementation of ICT budget was insufficient and librarians faced a number of pre and post automation problems due to the budget and users demanded more ICT based services". **S. Dhanavandan, Mohammed Esmail and M. Nagarajan (2012)**<sup>5</sup> in their study found that "the majority of the faculty members visited the library daily and maximum number of reveals spent half an hour to one hour. A maximum number of faculty members use the Internet and using electronic resources for their research/ study and communication purpose respectively". **Ahmad and Fatima (2009)**<sup>1</sup> reported that "the researchers use a variety of ICT products and services for their research work as these products prove very helpful in finding needed information quickly and easily and recommended proper training and guidance for use of ICT based technologies for the optimum utilization of these services by the researchers". **Mohamed Haneefa K (2007)**<sup>6</sup> in a study concluded that "the Central Government, State Government, Central Government Autonomous, State Government Autonomous institutions have a good number of the library users were either scientists or persons having a similar designation. In the study, the researcher found that the electronic resource e-mail is used by the largest percentage". **Lumbar and others (2006)**<sup>11</sup> indicated that "the electronic resources are highly useful for research and academic community and also recommended that the library must conduct a user awareness program to train the research and academic community to increase utilization of electronic resources". **Raza and Upadhyay (2006)**<sup>13</sup> revealed that "the research scholars were referring e-journals for their research". **Amrita Pal Kaur (2000)**<sup>2</sup> investigated that "the majority of respondents used search engines to browse required information". **Kooganurmah and Jange (1999)**<sup>9</sup> observed that "the majority of users use internet for access to information related to higher studies".

## OBJECTIVES OF THE STUDY

- To analyses the ICT based services used by the Research Scholars.
- To identify the ICT based resources used by Research Scholars.

## HYPOTHESIS

**H<sub>1</sub>:** There are significant differences in using of ICT based services

**H<sub>2</sub>:** There is no significant difference in using of ICT based services among research scholars

**H<sub>3</sub>:** There is a significant difference in using of ICT based resources

**H<sub>4</sub>:** There is no significant difference in using of ICT based resources among research scholars

## METHODOLOGY

The study was carried out from the research scholars those who are doing research programs of M. Phil and PhD in LIS in various institutions of southern Tamil Nadu. A structured questionnaire was used to collect the data for this study. The questionnaire was divided into three sections like personal information, ICT based resources, and ICT based services used to get the information related to research. The questionnaires were administered directly to the research scholars of library and information science. The data were collected through e-mail and in person. 87 questionnaires were received back (87%) as total of 100 questionnaires were distributed and analyzed using SPSS.

## DATA ANALYSIS

The received questionnaires were observed scrutinized, tabulated, and analyzed. Necessary statistical techniques (SPSS) and illustrations used in order to make the data analysis statistically effective. The chi - square test applied to the survey data to measure observed data with expected data to attain result according to the formulated hypothesis.

$$\chi^2 = \sum \frac{(o-e)^2}{e}$$

- observed value
- e - expected value

Degree of freedom (df) (n-1) where n is the number of classes

## DATA ANALYSIS AND FINDINGS

### Distribution of Respondents

The data were collected from research scholars who are pursuing M. Phil (21, 24.14%) and PhD (66, 75.86%) in LIS at various institutions of southern Tamil Nadu. The following table 1 shows that demographic information.

**Table 1: Demographic Information**

S. No	Research Programmes	No. of Respondents	%
1.	M.Phil	21	24.14
2.	Ph.D	66	75.86
	<b>Total</b>	<b>87</b>	<b>100</b>

### ICT Based Library Services

The research scholars have used the various ICT based Library Services to access information. Table 2 shows that the analysis about the library services used by the research scholars.

**Table 2: ICT Based Library Services**

S. No	Description	NO	O	R	F	MF	T	M	Std	R	Chi-Square
1.	OPAC	4 4.6%	5 5.7%	11 12.6%	16 18.4%	51 58.6%	87 100%	4.20	1.15273	1	86.506

2.	Web OPAC	8 9.2%	7 8.0%	9 10.3%	22 25.3%	41 47.1%	87 100%	3.93	1.31885	3	48.575
3.	E-mail	6 6.9%	6 6.9%	8 9.2%	25 28.7%	42 48.3%	87 100%	4.04	1.21911	2	58.115
4.	Electronic Document Delivery Service	11 12.6%	17 19.5%	11 12.6%	15 17.2%	33 37.9%	87 100%	3.48	1.47744	5	19.034
5.	Ask Librarian	1 1.1%	18 20.7%	10 11.5%	30 34.5%	28 32.2%	87 100%	3.75	1.15099	4	34.207

(NO=No Opinion, O=Occasionally, R= Regular, F=Frequently, MF=Most Frequently T= Total, M=Mean, R=Rank, Std=Standard deviation), (Table Value 9.488, df 4)

Table 2 shows that majority of research scholars are used “OPAC” (Online Public Access Catalogue (Mean 4.20, Rank 1), it is followed by “E-mail” (Mean 4.04, Rank 2). It is also found that (Mean 3.93, Rank 3) of research scholars are used “Web OPAC” and a very few research scholars are used “Electronic Document Delivery Service” (Mean 3.75, Rank5). The standard deviation indicates that there is a least deviation in using of ICT based services among research scholars, since the standard deviation lies below 1.47. Also the chi-square test is applied to test hypothesis that there exists a significant difference in using of ICT based Library Services. The tabulated value (86.506) for parameter is more than the table value (9.488). Hence, the hypothesis is not significant.

### ICT Based Library Services by Research Programme

ICT based Library services were further analyzed by Research Programme. Table 3 shows that the analysis about the ICT based library services used by the research scholars.

**Table 3: Ict Based Library Services Vs Research Programmes**

S. No	Description	M.Phil N=21							PhD N=66							Chi-Square
		NO	O	R	F	MF	M	R	NU	O	R	F	MF	M	R	
1.	OPAC	0 .0%	0 .0%	1 4.8%	7 33.3%	13 61.9%	4.57	1	4 6.1%	5 7.6%	10 15.2%	9 13.6%	38 57.6%	4.09	1	7.635
2.	Web OPAC	3 14.3%	0 .0%	2 9.5%	8 38.1%	8 38.1%	3.85	5	5 7.6%	7 10.6%	7 10.6%	14 21.2%	33 50.0%	3.95	2	5.300
3.	E-mail	1 4.8%	1 4.8%	0 .0%	5 23.8%	14 66.7%	4.42	2	5 7.6%	5 7.6%	8 12.1%	20 30.3%	28 42.4%	3.92	3	5.084
4.	E-Document Delivery Service	2 9.5%	1 4.8%	2 9.5%	5 23.8%	11 52.4%	4.04	3	9 13.6%	16 24.2%	9 13.6%	10 15.2%	22 33.3%	3.30	5	5.737
5.	Ask Librarian	0 .0%	3 14.3%	1 4.8%	13 61.9%	4 19.0%	3.85	5	1 1.5%	15 22.7%	9 13.6%	17 25.8%	24 36.4%	3.72	4	9.479

(NO=No Opinion, O=Occasionally, R= Regular, F=Frequently, MF=Most Frequently, M=Mean, R=Rank), (Table Value 9.488, df 4)

Table 3 shows that majority of M. Phil research scholars (Mean 4.57, Rank 1) and PhD research scholars (Mean 4.09, Rank 1) are used “OPAC”. It is further observed that (Mean 4.42, Rank 2) of M. Phil research scholars are used “E-mail” whereas (Mean 3.95, Rank 2) of PhD research scholars are used “Web OPAC”. It is also analyzed that a very few M. Phil Research Scholars (Mean 3.85, Rank 5) are used “Ask A Librarian and Web OPAC” and (Mean 3.30, Rank 5) of PhD research scholars are using E-Document Delivery Service. The chi-square test is applied to test hypothesis that there is no significant difference in using of ICT based services among research scholars. The tabulated value (9.479) for parameter is less than the table value (9.488). Hence, hypothesis are significant.

### ICT Based Library Resources

Table 4 show that the analysis about the ICT based resources used by the research scholars.

**Table 4: Ict Based Library Resources**

S. No	Description	DA	NO	A	Total	Mean	Std	R	Chi-Square
1.	Online Databases	55.7%	910.3%	7383.9%	87 100%	2.78	.53755	2	100.414
2.	Search Engines	44.6%	55.7%	7889.7%	87100%	2.85	.47074	1	124.207
3.	Web Portals	1517.2%	2124.1%	5158.6%	87100%	2.41	.77086	5	25.655
4.	Subject Gateways	12	19	56 64.4%	87 100%	2.50	.72934	4	38.552
5.	Institutional Repositories	11 12.6%	15 17.2%	61 70.1%	87 100%	2.57	.70928	3	53.241

(DA=Disagree, NO=No Opinion, A=Agree, R=Rank, Std= Standard deviation), (Table value 5.991, df 2)

Table 4 shows that the majority of research scholars are used “Search Engines” (Mean 2.85, Rank 1) and “Online Databases” (Mean 2.78, Rank 2) to collect information related to their research. It is also found that (Mean 2.57, Rank 3) of respondents are using “Institutional Repository”. A few research scholars are used “Web Portal” (Mean 2.41, Rank 5). The standard deviation indicates that there is a least deviation in using of ICT based resources among research scholars since the standard deviation lies below 0.77. The chi-square test is also applied to test that there is a significant difference in the using of ICT based resources. The tabulated value (124.207) for parameter is more than the table value (5.991). Hence, the hypothesis is not significant.

#### ICT Based Library Resources by Research Programmes

The study is further analyzed the use of ICT based library resources by M. Phil and PhD research scholars and the same is given in table 5.

**Table 5: Ict Based Library Resources Vs Research Programmes**

S. No	Description	M.Phil n=21					PhD n=66					Chi-Square
		DA	NO	A	M	R	DA	NO	A	M	R	
1.	Online Databases	314.3%	14.8%	1781.0%	2.66	1	23.0%	812.1%	56 84.8%	2.81	2	4.375
2.	Search Engines	314.3%	14.8%	1781.0%	2.66	1	11.5%	46.1%	6192.4%	2.90	1	5.932
3.	Web Portals	523.8%	419.0%	12 57.1%	2.33	3	10 15.2%	17 25.8%	39 59.1%	2.43	5	1.000
4.	Subject Gateways	523.8%	523.8%	1152.4%	2.28	5	710.6%	1421.2%	4568.2%	2.57	4	2.681
5.	Institutional Repositories	523.8%	419.0%	1257.1%	2.33	3	69.1%	1116.7%	4974.2%	2.65	3	3.446

(DA=Disagree, NO=No Opinion, A=Agree, R=Rank), (Table value 5.991, df 2)

Table 5 shows that majority of M. Phil research scholars (Mean 2.66, Rank 1) and PhD research scholars (Mean 2.90, Rank 1) are used “Search Engines” to collect information related to their research, A very few M. Phil research scholars are used “Subject Gateways”(Mean 2.28, Rank 5) and PhD research scholars (Mean 2.43, Rank 5) are used “Web Portals”. The chi-square test is also applied to test that the hypothesis that there is no significant difference in using of ICT based resources among research scholars. The tabulated value (5.932) for parameter is less than the table value (5.991). Hence, hypothesis are significant.

#### CONCLUSIONS AND RECOMMENDATIONS

The publication of electronic resources is rapidly increasing in the recent past years due to the advancement of ICT. At the same time, there is tremendous growth in usage of ICT based resources and services among research scholars. The electronic resources are playing an important part in the research programs in all the disciplines. It helps the research scholars to collect the information which is scattered at global level. Based on this study the recommendation given below:

- The library should promote the Electronic Documentary Delivery Services among the library users and the LIS professionals should also expand the attitude to share the resources and services among research scholars.
- The digital library services are introduced in many academic institutions to cater the needs of the users. These services will help in large to access to scholarly content in all over the world. The libraries should create a separate web portal to upload their content and services in a networked platform.

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